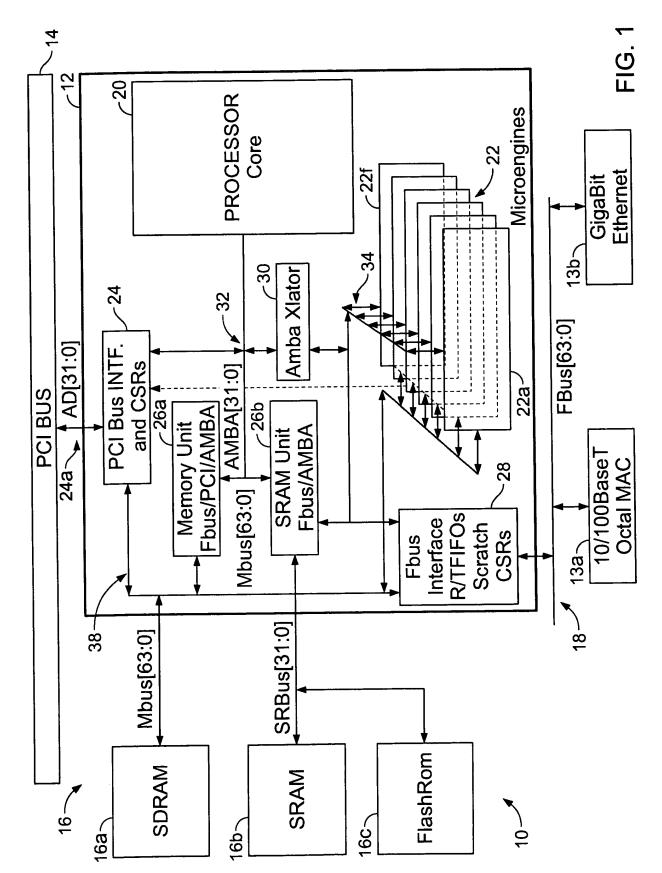
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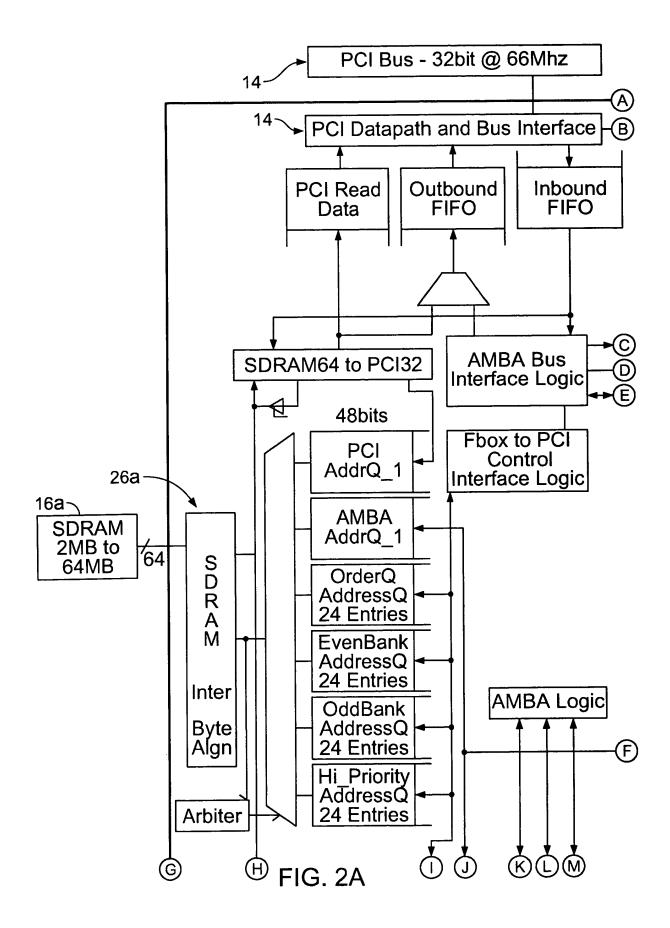
Applicant(s): Gilbert Wolrich et al.

THREAD SIGNALING IN MULTI-THREADED NETWORK



Applicant(s): Gilbert Wolrich et al.

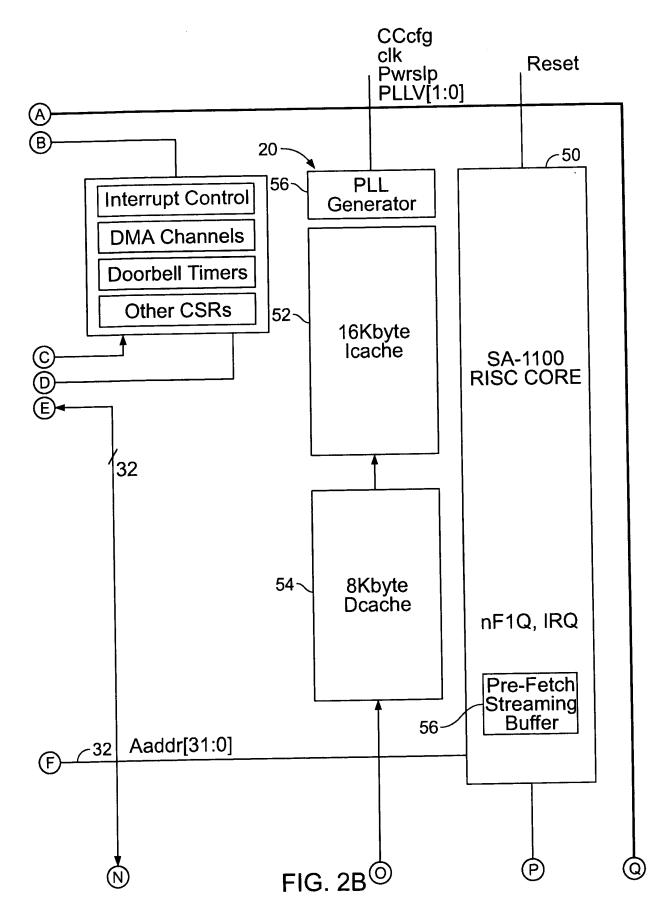
THREAD SIGNALING IN MULTI-THREADED NETWORK



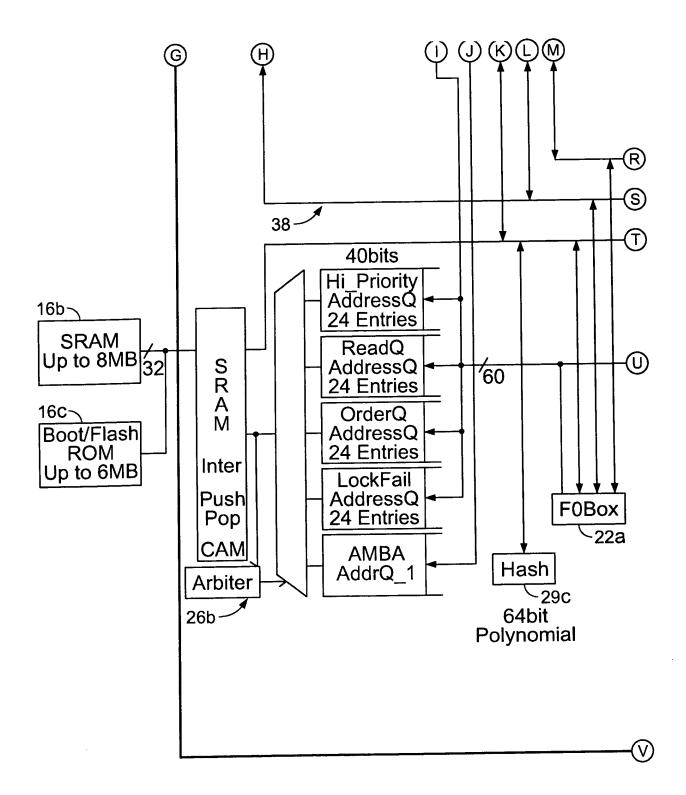
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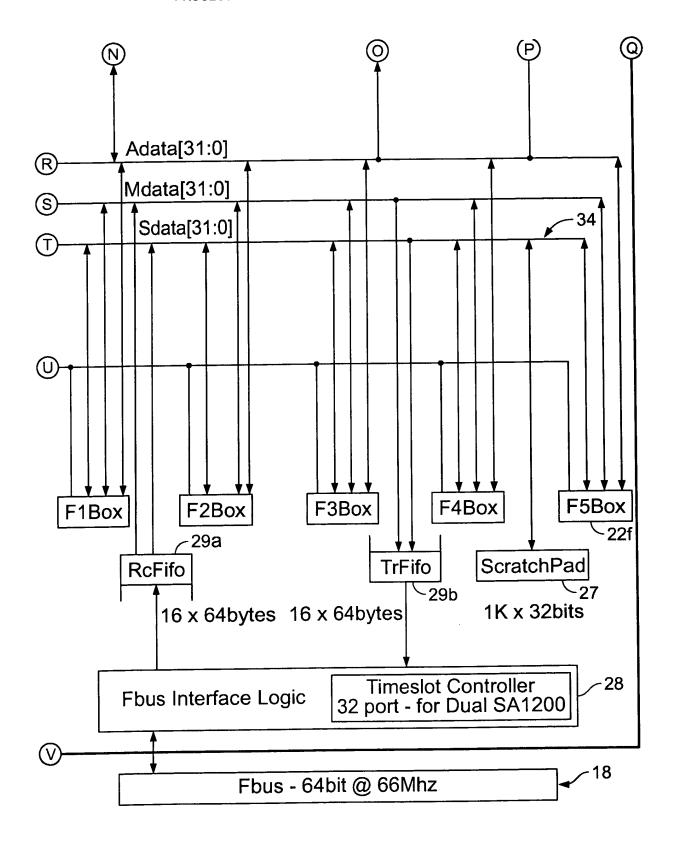
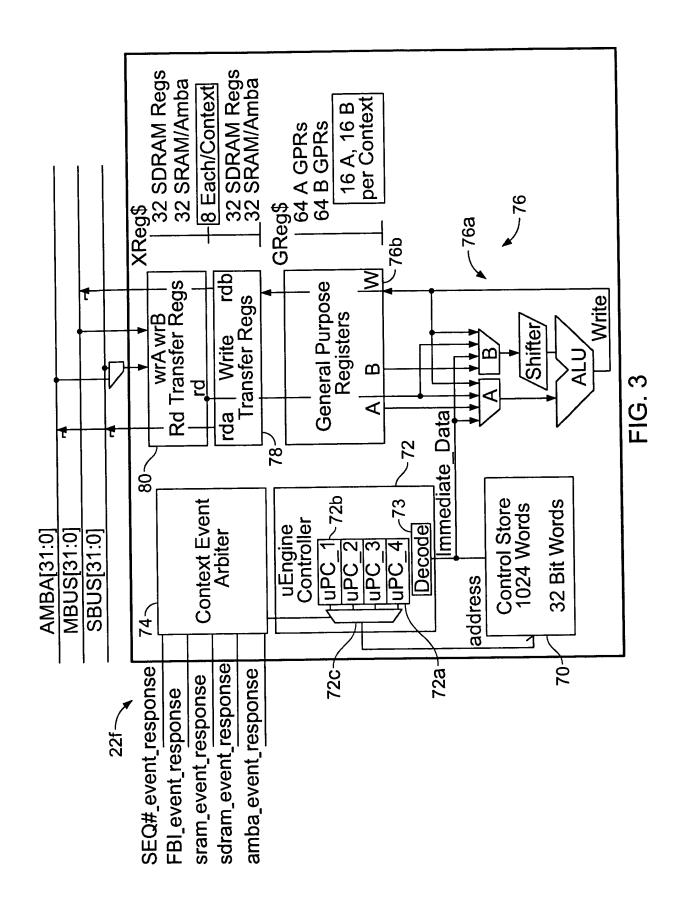


FIG. 2D

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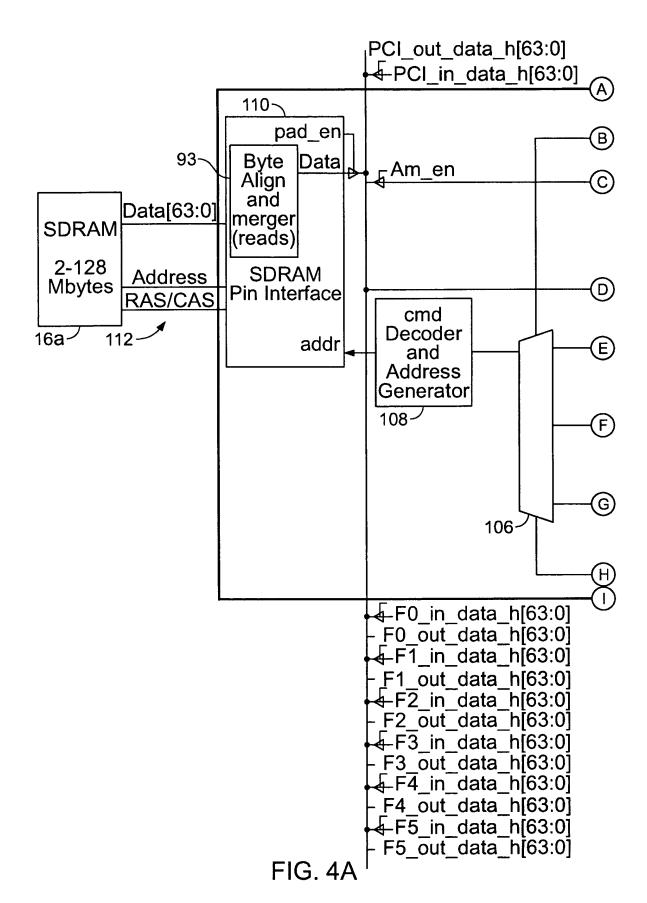


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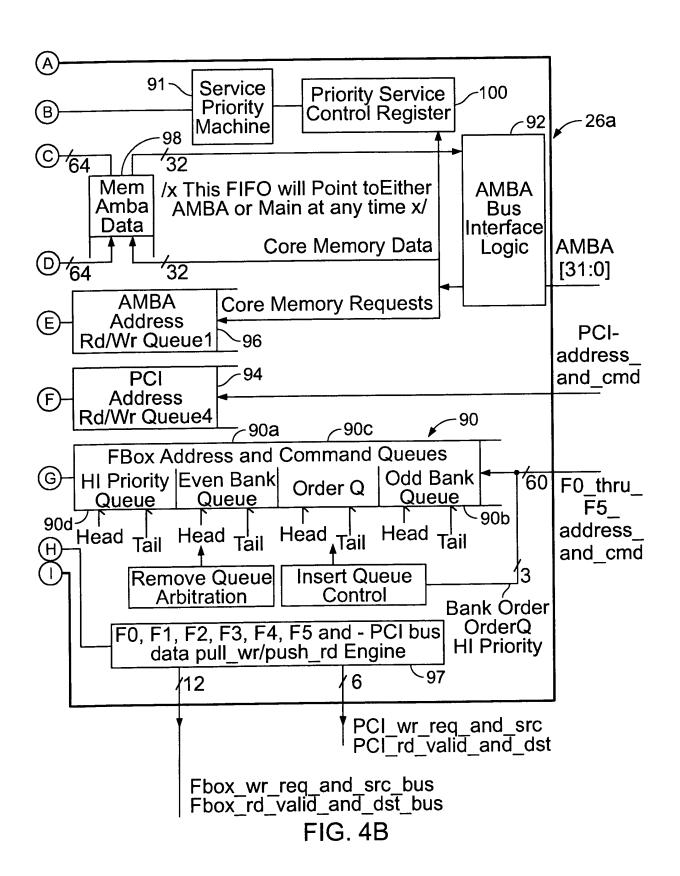
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THREAD SIGNALING IN MULTI-THREADED NETWORK



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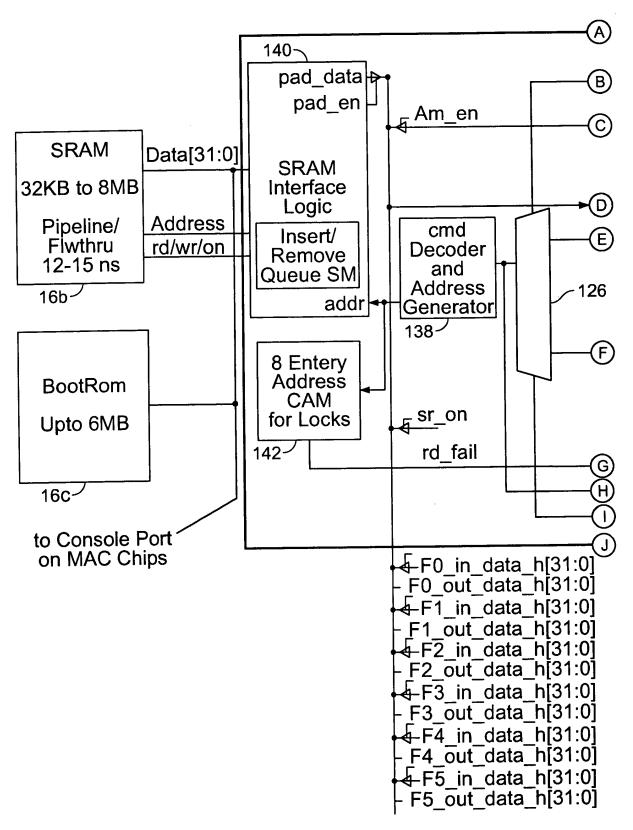
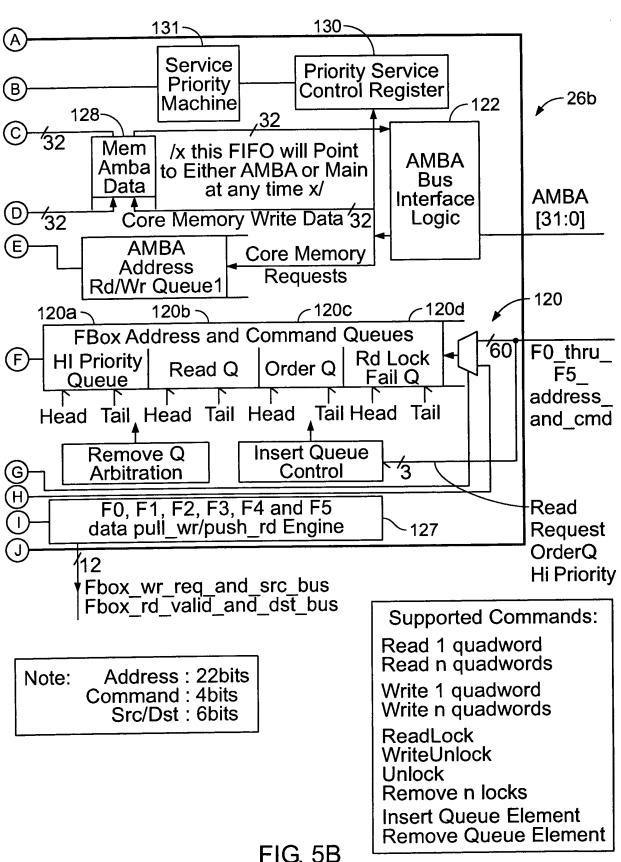
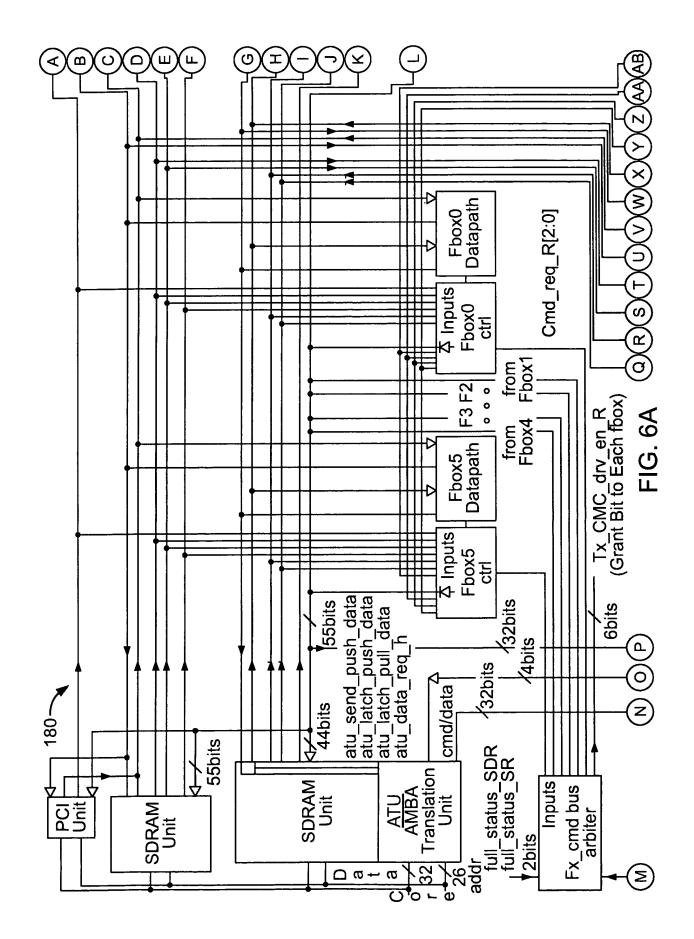


FIG. 5A

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THREAD SIGNALING IN MULTI-THREADED NETWORK



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THREAD SIGNALING IN MULTI-THREADED NETWORK

PROCESSOR

Sdram\_push\_addr\_R<6:0> & Sdram\_push\_id\_R<2:0> PCI\_sdone\_Tbox\_R<2:0> & PCI\_sdone\_ctx\_R<1:0> Sbus\_push\_addr\_R<4:0> & Sbus\_push\_ld\_R<3:0> Sdram\_pull\_addr\_R<6:0> & Sdram\_pull\_id\_R<2:0> Sbus\_pull\_addr\_R<4:0> & Sbus\_pull\_ld\_R<3:0> (L)— T\_cmd\_type\_R<2:0> (Unit Address) - Sdram\_sdone\_Tbox\_R<2:0> Sdram\_push\_data\_R<31:0> Sram\_sdone\_Tbox\_R<2:0> T\_cmd\_bus\_R<54:0> Sets Sdram\_pull\_data\_R<31:0> Sdram\_sdone\_ctx\_R<1:0> Sbus\_push\_data\_R<31:0> - Sram\_sdone\_ctx\_R<1:0> Sbus\_pull\_data\_R<31:0> ග

FBI\_Sdone\_Tbox\_R<2:0> & FBI\_Sdone\_ctx\_R<1:0>
FBI\_auto\_push\_Tbox\_R<2:0> & FBI\_auto\_push\_ctx\_R<1:0>
Ithrd\_sdone\_Tbox\_R<2:0> & Ithrd\_sdone\_ctx\_R<1:0>
Seq1\_num\_Isb\_R & Seq2\_num\_Isb\_R
Rec\_ctl\_sdone\_Tbox\_R<2:0> & Rec\_ctl\_Sdone\_ctx\_R<1:0>
NOTE: 277 hori tracks x 5/4 x 8 = 2770cdu´s

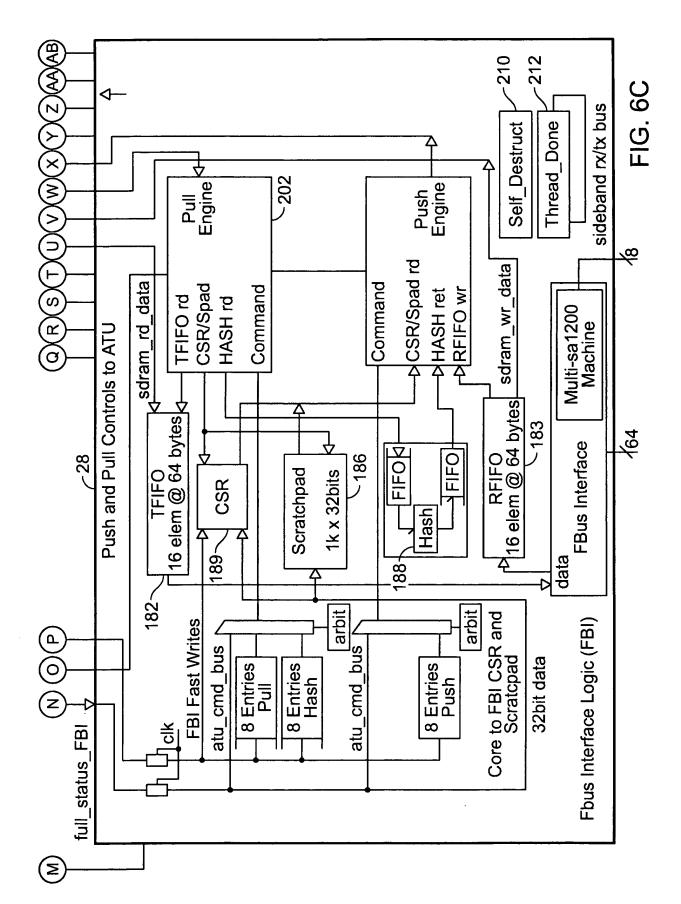
Note: Fboxes Time Multiplex the cmd bus.

FIG. 6B

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THREAD SIGNALING IN MULTI-THREADED NETWORK



THREAD SIGNALING IN MULTI-THREADED NETWORK

Cmd_type_   R<2:0>	
-----------------------	--

3) Push Cmds Completion 3) Pull Cmds Cmd Arbitration: Cmd Arbitration **Push Engine** 1) Amba 1) Amba 2) Hash Pull Engine 2) Hash

Sdram\_puXX\_addr\_R<6:0> Sram\_puXX\_addr\_R<4:0> Sdram\_puXX\_ID\_R<3:0> Sram\_puXX\_ID\_R<3:0> [4:0] xfer\_reg\_addr [4:0] xfer\_reg\_addl if not TFIFO [6:0] TFIFO\_addr 8-13 Fboxes\_csr 0-5 Fboxes 8-13 Fboxes csr 0-5 Fboxes 15 nop 15 nop 6 fbi 6 fbi

br/ctx br/ctx br/ctx br/ctx <del></del> br/ctx br/ctx br/ctx br/ctx ದೆದೆದ (flag) t (flag) t (flag) (flag) I Fbox Branch/Ctx Choices ccodes, contexts and kil Seq # 1 change Seq # 2 change SRAM sdone SDRAM sdone SURAM sdone Volunteer ctx swap O) Rec req available 1) SDRAM rd parity err 2) Fbox push protect ( FBI\_sdone FBI\_auto\_push Ithread sdone signal rec\_ctl 400/80

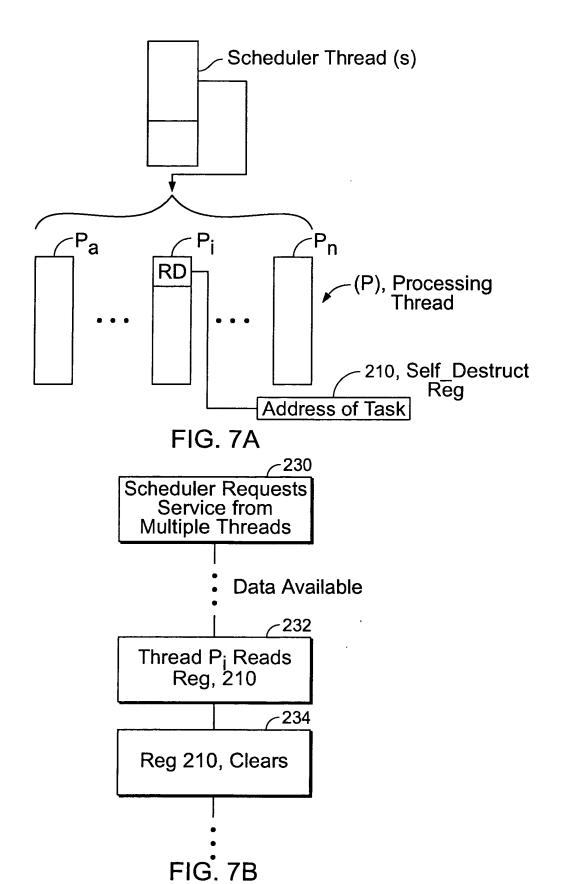
Cmd\_Req\_R<2:0> 001 Sram Chain 010 SDR Chain Tx\_CMD\_drv\_en\_ 011 Sram 100 SDR 101 FBI 000 none 110 PCI grant 0 none R<1:0> 111 use sram\_push\_data\_bus (makes sram appear like another Fbox to FBI or use sram\_push\_data\_bus b) Core to FBI Regs: use Private ATU/FBI use Sram pull data bus d) Core Reads FBIRegs. c) Core reads FboxRegs a) Core to FboxRegs: ATU Notes: sram\_push\_bus)

cmd/data bus

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THREAD SIGNALING IN MULTI-THREADED NETWORK



THREAD SIGNALING IN MULTI-THREADED NETWORK

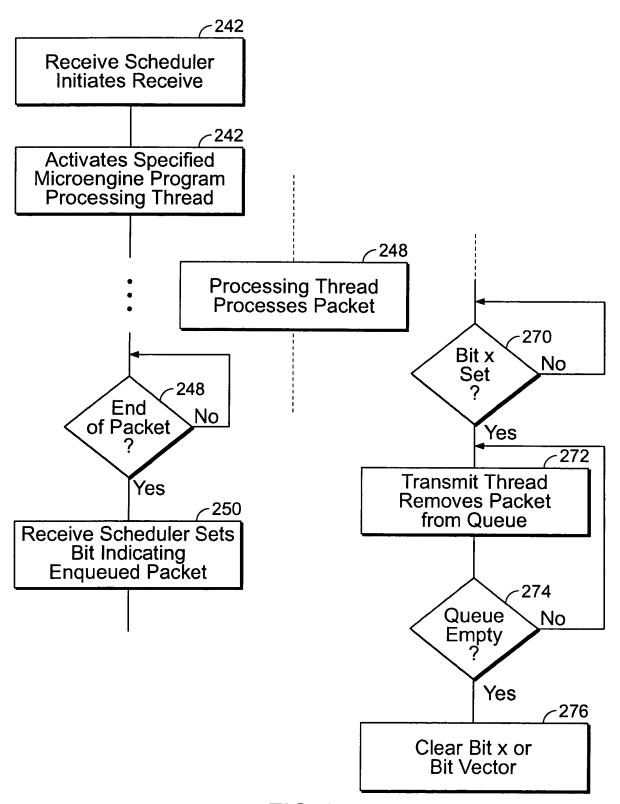


FIG. 8

THREAD SIGNALING IN MULTI-THREADED NETWORK

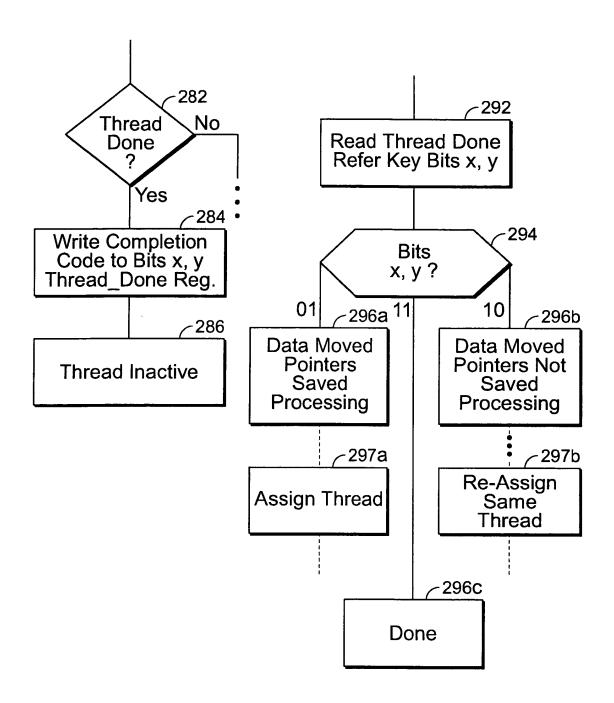


FIG. 9